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This listing of claims will replace all prior version, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) A method for compression of sonic log data, comprising:

  sorting peak components in a STC plane to transform high-frequency information in the peak components to low frequency; and

  decimating the sorted peak components according to a selected ratio to produce compressed data.

2. (original) The method of claim 1, wherein sorting the peak components comprises sorting for compressive wave (P-wave), shear wave (S-wave), and Stoneley wave (St-wave) components.

3. (original) The method of claim 2, wherein sorting comprises sorting for the P-wave component, the S-wave component, and the St-wave component in a sequential order.

4. (original) The method of claim 1, wherein sorting involves rules based on expected slowness ranges for the peak components.

5. (original) The method of claim 1, wherein sorting the peak components comprises correcting peak spikes due to noise in the sonic log data.

6. (previously presented) The method of claim 1, wherein the sorting comprises filtering the sorted peak components using a low pass filter.

7. (original) The method of claim 6, wherein the low pass filter is selected to cut off a top 75% frequency in the sorted peak components.

8. (original) The method of claim 7, wherein the selected ratio is four to one.

9. (previously presented)   The method of claim 6, wherein the sorting, the filtering, and the decimating are performed in a downhole tool.

10. (original) The method of claim 9, further comprising sending the compressed data uphole via telemetry.

11. (original) The method of claim 10, wherein sending the compressed data uphole comprises encoding the compressed data.

12. (original) The method of claim 9, wherein the telemetry comprises mud telemetry.

13. (previously presented)   A method for telemetry transmission of downhole sonic log data, comprising:

    sorting peak components in a STC plane to transform high-frequency information in the peak components to low frequency;

    compressing the sorted peak components to produce compressed data;

    packing the compressed data to produce data packets for telemetry transmission; and

    sending the data packets where desired using telemetry.

14. (original) The method of claim 13, wherein sorting the peak components comprises sorting for compressive wave (P-wave), shear wave (S-wave), and Stoneley wave (St-wave) components.

15. (original) The method of claim 14, wherein sorting comprises sorting for the P-wave component, the S-wave component, and the St-wave component in sequential order.

16. (original) The method of claim 13, wherein sorting involves rules based on expected slowness ranges for the peak components.

17. (original) The method of claim 13, wherein sorting the peak components comprises correcting peak spikes due to noise in the sonic log data.

18. (original) The method of claim 13, wherein compressing comprises:

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  filtering the sorted peak components using a low pass filter; and

  decimating the filtered sorted peak components according to a selected ratio.

19. (original) The method of claim 18, wherein the low pass filter is selected to cut off a top 75% frequency in the sorted peak components.

20. (original) The method of claim 19, wherein the selected ratio is four to one.

21. (original) The method of claim 13, further comprising unpacking the data packets to regenerate the compressed data; and decompressing the regenerated compressed data to reconstruct the peak components.

22. (original) The method of claim 21, wherein decompressing comprises interpolating the regenerated compressed data.

23. (canceled)

24. (canceled)

25. (canceled)

26. (canceled)

27. (canceled)

28. (canceled)

29. (canceled)

30. (canceled)

31. (new) The method of claim 1, further comprising:

  providing a processor and memory means; and

  storing a program having instructions in the memory,

  wherein the instructions comprise sorting peak components in a STC plane to transform high-frequency information in the peak components to low frequency; and

decimating the sorted peak components according to a selected ratio to produce compressed data.